Issue: Relative Potential Benefit to Wildlife and Biodiversity

The intent of this issue is to:

- Identify the areas of greatest conservation value for wildlife habitat and plant and animal biodiversity, and where management can enhance these values.

Discussion: Initially, this issue was listed as two separate ones – 'Wildlife Benefit' and 'Healthy Forest Ecosystems.' After conversations with representatives of Idaho Fish and Game (IDFG) and The Nature Conservancy (TNC), a decision was made to combine these into a Wildlife and Biodiversity issue. Principle reasons for this are that data for priority conservation areas, developed by the TNC, and Special Status Species data (including threatened and endangered) included plant communities and species as well wildlife. Breaking these apart would have the effect of overweighting fish and wildlife.

This issue will highlight those areas were forests play a key role in wildlife critical habitat and range, threatened, endangered and rare fish and wildlife habitat and plant communities. Within the context of the full assessment and response strategy, projects proposed within areas of overall high priority—which include areas identified as high priority for this issue—should consider activities that will enhance the habitat of the plant, fish and wildlife species listed within those areas.

Data used:

Multiple data layers informed this issue. These are:

1. **Fish Distribution,** comprised of:
    a. **Bull Trout Fish Distribution**
    b. **Cutthroat Trout distribution**
    c. **Chinook Salmon distribution**
    d. **Steelhead Salmon distribution**
    e. **Sockeye Salmon distribution**

    All fish distribution data came from Streamnet (http://www.streamnet.org/mapping_apps.html). The data represent current distribution and activity for the above species. More information on creation of this feature class is available at http://www.streamnet.org/about.html. Initially, distribution data for each species was buffered by 75 feet on any critical habitat stream, river, or lake. These buffered layers were then converted into a 30 m raster grid and re-classed to either a 1 (presence) or 0 (absence). After discussion at the July 14, 2009 Stakeholder

meeting and subsequent conversations with Gregg Servheen (ID F&G) and Bob Unnasch (TNC), this was changed such that stream segments were brought up to a 6th order HUC. The final fish distribution map was derived by adding up the five sub layers and reclassifying ***0 through 5*** based on the number of separate species represented in each pixel.

2. **Comprehensive Wildlife Conservation Strategy (CWCS) Focal Areas and Big Game**
   a. **Focal Areas** from the Idaho CWCS (http://fishandgame.idaho.gov/ifwis/ifwisweb/IDCWCS/FA/)

      Through the workshop process, Idaho conservation partners mapped and attributed focal areas across Idaho. These are general areas known to be important for the species of greatest conservation need identified in the Idaho Comprehensive Wildlife Conservation Strategy, but by no means are intended to imply that conservation actions should be restricted to these areas. Focal areas were defined as resource-based, management-based, or both:

      Resource Focal Area:
      A geographical area necessary for the long-term persistence of SGCN and their habitats (in other planning efforts these may be referred to as High Resource Value Areas or Biologically Important Areas).

      Management Focal Area:
      A general geographical area that targets resources and efforts where they can benefit the largest number of species and habitats in need of conservation. Management focal areas are generally larger and may include species and/or habitats other than SGCN as well as non-biological factors.

      Focal areas were classified by their type, converted to 30m raster, and reclassified as: ***0 where none exist, 1 where it is a resource Focal Area, and 3 if it is a Management Focal Area***.

   b. **Big Game Habitat** from Idaho Fish and Game, including:
      i. **Mule Deer** –Summer and Winter Range, and other Important Habitat
      ii. **Elk** – Critical Summer and Winter Range
      iii. **Mountain Goat** – Habitat
      iv. **Bighorn Sheep** – Priority Habitat

      Species were selected, and data provided by the Idaho Fish and Game Department. These species represent the most critical big game species per the CWCS. Each species habitat/range was converted to 30m raster and classified as **1 where the species exists, and 0 where it doesn't**.

The scores from both a) and b) above were added together. Pixels could have a score from 0 to 7. These were reclassified by natural breaks into five classes, 0 through 5.

3. **The Nature Conservancy Ecoregional Conservation and Priority Conservation Areas**, comprised of:

    a. **Canadian Rocky Mountains Ecoregional Assessment Data – Priority Conservation Areas**. This data is access restricted. Information on the assessment, including report, maps and data can be accessed at: (http://www.waconservation.org/ecoCanadianRockies.shtml)

    b. **Columbia Plateau Ecoregional Assessment Data – Priority Conservation Areas**. This data is access restricted. Information on the assessment, including the report, maps and data can be accessed at: (http://www.waconservation.org/ecoColumbiaPlateau.shtml)

    c. **Middle Rockies – Blue Mountains Ecoregional Assessment Data – Conservation Areas**. The assessment report and data can be accessed at: (http://www.waconservation.org/ecoBlueMountains.shtml)

    d. **Utah – Wyoming Rocky Mountains Ecoregional Assessment Data – Conservation Areas**. The assessment report can be accessed at: (http://conserveonline.org/coldocs/2003/10/uwrm_plan_ver2001.pdf)

    The metadata for Conservation Area datasets describes them as:

    "These data describe the priority areas for conserving imperiled species and functioning ecosystems. These extraordinary places are all part of a common "ecoregion", sharing similar climate, geologic historic, landforms, and native species. Resources for conservation in these ecoregions are limited, urban areas are expanding, and an extraordinary heritage of native species and ecosystems is at risk. This assessment is intended to help conservation agencies, planners, and organizations direct their resources to the most important places for conservation. It describes a "portfolio" of priority conservation areas which are 1) of exceptional biological value and 2) the most likely places for conservation to succeed based on their current condition, land use, and other factors. Most importantly, this portfolio captures as much of the biodiversity of the ecoregion as possible, ensuring that each local site contributes to an ecoregion-wide strategy for conservation."

    While all identified conservation areas are considered priority, these area within the first two datasets (a. and b.) were further refined to include those which are most important and/or at highest risk.

Because datasets c. and d. did not further prioritize conservation areas, there may be more identified conservation areas relative to the other two. For this reason, all areas were combined, converted to a 30m raster grid. Pixels were classified with a value of ***3 if they were a conservation or high conservation area per the datasets used, and 0 if they did not.***

4. **Federally Listed Threatened and Endangered Species,** from the Idaho Conservation Data Center, Idaho Department of Fish and Game—from 2007.

   The occurrences represent Federally Listed Threatened and Endangered in Idaho. This spatial coverage and the occurrences contained in it are not a public record. Data were converted to 30m raster pixels, and classified with a ***1 if a T&E species exists, and 0 if not***. These species are listed at the end of this document.

Issue Process: The four layers listed above were added together and reclassified by natural breaks into five classes indicating low to high relative benefit to Wildlife and Biodiversity.

Data Considered but not Used:

Early on, when Healthy Forest Ecosystems was being considered as a separate issue, the Core Development Team looked at using the Legacy Areas of Need and Fire Regime Condition Class to inform this issue. It was determined that the **Legacy Areas of Need** (AON) stood on its own as a separate assessment, and included many of the data being used in the SAFR. Rather than double count these data, the Legacy will be incorporated into the assessment as supporting information, and will be part of the Response Strategy. The SAFR, or components thereof, may be used as a secondary sort tool to further refine priority areas for potential Legacy Conservation Easements.

Fire Regime Condition Class represents areas depending on how well they are within or depart from historic fire regimes. The team felt that areas within historic fire regimes were those that were likely to be resilient to wildfire, and relatively intact. However, the disclaimer in this analysis states “Fire Regime Condition Classes were developed for the western United States and were not intended to be mapped or summarized at a finer level (e.g., mapped or summarized for a single state), which could provide misleading results.” For this reason, we felt using this in our statewide assessment would be an inappropriate and potentially inaccurate use of the data. (Note that per the discussion in the Wildfire Issue, updated FRCC data was determined to be acceptable and is being used to inform that issue. The model for this issue had already been modified a number of times, and no further discussion took place regarding reconsideration of this dataset.)

Species listed in Idaho based on published population data

Notes:

- This report shows the species listed in this state according to the Federal Register listing description.
- This list does not include experimental populations and similarity of appearance listings.
- This list includes species or populations under the sole jurisdiction of the National Marine Fisheries Service.
- Click on the highlighted scientific names below to view a Species Profile for each listing.

Listed species (based on published population data) -- 22 listings

Animals -- 18 listings

Status	Species/Listing Name
T	Bear, grizzly lower 48 States, except where listed as an experimental population or delisted (*Ursus arctos horribilis*)
E	Caribou, woodland Selkirk Mountain population (*Rangifer tarandus caribou*)
E	Curlew, Eskimo (*Numenius borealis*)
E	Limpet, Banbury Springs (*Lanx sp.*)
T	Lynx, Canada lower 48 States DPS (*Lynx canadensis*)
E	Rabbit, pygmy Columbia Basin DPS (*Brachylagus idahoensis*)
T	Salmon, chinook fall Snake R. (*Oncorhynchus (=Salmo) tshawytscha*)
T	Salmon, chinook spring/summer Snake R. (*Oncorhynchus (=Salmo) tshawytscha*)
E	Salmon, sockeye U.S.A. (Snake River, ID stock wherever found.) (*Oncorhynchus (=Salmo) nerka*)
T	Snail, Bliss Rapids (*Taylorconcha serpenticola*)
E	Snail, Snake River physa (*Physa natricina*)
E	Snail, Utah valvata (*Valvata utahensis*)
E	Springsnail, Bruneau Hot (*Pyrgulopsis bruneauensis*)
T	Squirrel, northern Idaho ground (*Spermophilus brunneus brunneus*)
T	Steelhead Snake R. Basin (*Oncorhynchus (=Salmo) mykiss*)
E	Sturgeon, white U.S.A. (ID, MT), Canada (B.C.), Kootenai R. system (*Acipenser transmontanus*)
T	Trout, bull U.S.A., conterminous, lower 48 states (*Salvelinus confluentus*)
E	Wolf, gray Lower 48 States, except where delisted and where EXPN. Mexico. (*Canis lupus*)

Plants -- 4 listings

Status	Species/Listing Name
T	Catchfly, Spalding's (*Silene spaldingii*)
T	Four-o'clock, MacFarlane's (*Mirabilis macfarlanei*)
T	Howellia, water (*Howellia aquatilis*)
T	Ladies'-tresses, Ute (*Spiranthes diluvialis*)

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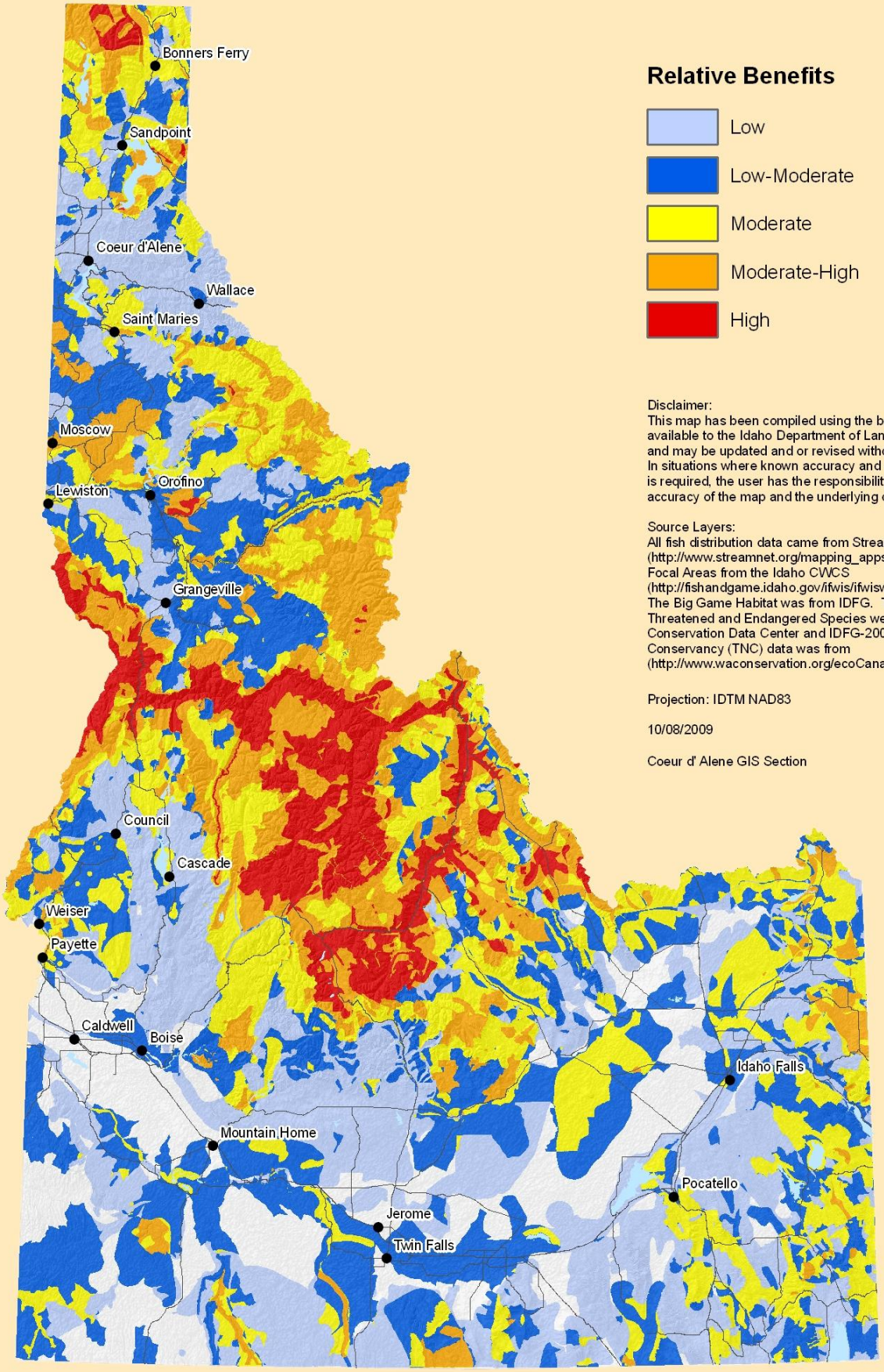
Relative Potential Benefit to Biodiversity and Wildlife